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ABSTRACT

The listed procedures are intended to provide guidance for the implementation of a study of learning disability among 12-15 year old adjudicated delinquent boys and non-adjudicated public school boys of the same age, and to support interpretation of study data and replication of the study's procedures. This task can best be considered in several parts: the selection of a sample from two populations, reviewing records and applying decision rules for the selection of boys for further diagnostic assessments, making recommendations for remediation, initial analysis and post remediation data collection. Paralleling these major procedures are several activities, including the briefing of assessors, quality control, and information reporting to several audiences.
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Procedures Document
for
Psychoeducational Diagnostic Services
for Learning Disabled Youths

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Procedures Document

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I. Overview

This document of procedures is intended to provide guidance for the implementation of a study of learning disability among 12-15 year old adjudicated delinquent boys and non-adjudicated public school boys of the same age. It is also intended to support interpretation of study data and replication of the study's procedures.

The task to be addressed by the procedures can best be considered in several parts. In sequence, they include the selection of a samples from two populations, reviewing records and applying decision rules for the selection of boys for further diagnostic assessments, conducting diagnostic assessment, making recommendations for remediation, initial analysis and post remediation data collection. Paralleling these major procedures are several activities, including the briefing of assessors, quality control, and information reporting to several audiences. A special case of reporting is presented by the necessity of informal response to the inquiries of parents of the boys who are included in the study.

There are certain constraints which are operating during the implementation of the study which must be kept in mind when one considers the selected procedures. Two of them have had significant, and to some extent, controlling influence on the procedures design. First is the nebulousness of and lack of agreement on current definitions of learning disability. The proposed rules governing the allocation of federal assistance to states, for example, include the following comments:

1. The state of the art in the field of specific learning disabilities and its associated fields is such that it is not presently possible to specify exactly all of the components of each specific learning disability. There remain strong

opposing professional opinions as to the validity of a specific learning disability. At present, the only generally accepted manifestation of a specific learning disability is that there is a major discrepancy between expected achievement and ability which is not the result of other known and generally accepted handicapping conditions or circumstances.

2. There exists no hard research data collected on a large enough sample in order to state, with certainty, which are the common characteristics of all learning disabled children.
3. There are several theories as to what causes children to have specific learning disabilities.
4. There appear to be no generally accepted diagnostic instruments presently available which can be singly and appropriately utilized with all children with a specific learning disability.

This analysis of the definitional problem is also supported by the findings of the General Accounting Office (Fogel, R.L., et al, 1976). They reported that studies reviewed showed very wide variations of definitions and, as a result, developed an operational definition of the ability-achievement discrepancy type.

Ideally, under these circumstances one should collect, from a representative sample, data descriptive of several plausible definitions, apply construct validity analysis to these data, from these results determine the definitions best supported empirically, and then collect a new set of data from a new sample to determine incidence rates and provide remedial recommendation. The time and resources available for this study do not permit such an approach. Therefore, an a priori definition, based upon profile discrepancy in learning and ability, has been used to select a measurement package and thereby determine the incidence of learning disability in terms of such a definition. Subsequent analysis of the collected data will provide the opportunity to refine the definition empirically,

thus adding to the accumulated knowledge about learning disability, and if resources permit, making it possible to reanalyze the collected protocols for revision of the incidence estimates.

The second constraint is imposed by the impracticality of bringing the boys who participate in the study to the testing site on more than one occasion. Individual testing consumes a great deal of professional time, thereby consuming a major portion of the study's resources. It is also common knowledge that a period of two and one-half to three hours the maximum for a session with a single individual. As a result of this situation, the study is limited to the data available from each boy's records and from an assessment session completed in a two and one-half to three hour period. Within these two constraints the procedures have been designed to produce the maximum of usable information and to review this information in a systematic and replicable manner. The nature of the problem requires the exercise of considerable professional judgment, within guidelines which can be applied in a variety of settings.

The details of the procedures are presented in the following pages.

II. Theoretical Approach to the Assessment of Learning Disabilities

ETS's proposed strategy rejected the use of an a priori definition of LD and focused on a construct validation approach. This strategy stressed the importance of clarifying the meaning of LD both in terms of the study's priorities and its timetable. Diagnoses of LD for treatment eligibility were to be made after a period in which analyses of the collected data were to be carried out. These analyses were to uncover trait structures reflected in individual's records and responses to the instruments administered as well as to provide corresponding groupings of subjects (latent groups) that might be viewed as LD or not, or as types of LD according to their characteristic strengths and weaknesses. The variables (records and measures) employed in this approach were to be broadly sampled from the domains of intellectual functioning (perception and cognition), achievement, and so on.

The procedure here proposed represents quite a different approach necessitated by a reassessment of priorities. An early start for the treatment phase of the project has become imperative, providing two real constraints. First, the time necessary for analysis of the data in the proposed strategy is not available and the alternative approach of providing a priori definition and decision rules for diagnosis seems the only way to provide potential treatment subjects on schedule. The data considered must, of course, be tightly focused on the a priori definition rather than broadly focused in more general domains. Second, because individual diagnostic decisions must be made as soon as possible following data collection, it is necessary that all data be in an immediately meaningful form. That is to say that we do not have the time to collect and analyze group performance data necessary to providing normative and comparable meaning to the variables assessed. For that reason, to make immediate decisions possible, we are limited to the use of presently normed instruments.

II. Theoretical Approach to the Assessment of Learning Disabilities

A. Variable Selection

A second problem in assessing learning disability (LD) is that of selecting a reference system or systems of learning related behavior. Such systems are comprised of specified constructs -- traits or types of behavior -- and specified interrelationships among them. Two types of reference systems are widely reflected in the LD literature¹: Clinical approaches consisting of numerous often unspecified patterns of responses, and a symptomatic typological approach consisting of relatively well defined components of LD -- aphasia, dyslexia, hyperkinesis, and so on. Neither approach seems adequate for this study -- the former being largely idiosyncratic to the particular clinician and unreplicable, and the latter casting a net that is agreed upon as too narrow and somewhat superficial. Most educators would agree that LD consists of more than aphasia, dyslexia, and hyperkinesis and, furthermore, that it is the shared characteristics of the syndromes rather than their surface symptoms that are of interest to a complete LD conceptualization. Rather than accepting either the weaknesses of the clinical/judgmental or symptomatic/partial definitions, we have chosen variables according to a more basic psychological reference system and have selected measures (and records of scores) which are intended to reflect clinical and symptomatic/typological points of view as well.

Within this approach, we have had to settle for an incomplete solution since testing time must be held to reasonable limits and available information from

¹A third reference system, brain damage and its psychological correlates, was suggested in ETS' proposal. This work, though promising, seems not to have found its way into current LD discussion; and it has been dropped for now being beyond this study's resources of testing time funding.

records is likely to be only marginally helpful. We have, however, proposed the allocation of a small portion of testing time to gathering data on the adequacy of the reference systems and measures employed.

In the following sections the reader will notice "Marker Variables." These short research instruments are intended as checks on the structure of the diagnostic instruments and are not intended for use in making diagnostic decisions. Correlations between marker variables and diagnostic indices will be studied for convergence and divergence and factor analyses will be performed to confirm or deny the existence of the intended structure in the diagnostic battery. This use of scarce testing time seems appropriate due to the admittedly special nature of the LD and JD populations. Though we may be well assured that we understand the meaning of performance levels on digit span tasks in the normal population, for example, we are far less assured regarding their meanings in special groups. The marker tests will enhance our ability to provide ecologically valid interpretations of performance and to describe the structure of traits in the study's potentially unique populations.²

²Funds for these analyses are not available within our (ETS's) current contract but are being sought from various sources.

II. Theoretical Approach to the Assessment of Learning Disabilities

B. Instrument Selection

The measures proposed in the following chart reflect several approaches to LD. The theoretical work of Thurstone, Guilford, Cattell, and Witkin on the structure of abilities guided our thinking. The factor analytic studies of Witkin and his colleagues (Witkin, Dyk, Faterson, Goodenough, & Karp, 1974) were deemed especially relevant as they provide common findings with the various theoretical structures and their use of the WISC provides the desired link with a widely used clinical instrument. In addition, clinical conceptions of LD are reflected in the choice of the Bender-Gestalt and other perceptual measures.

The WISC-R is so widely used and well known that a detailed description is not needed here. In addition to theoretical consideration (reflected in the additional scoring for the Witkin, et. al factors), the availability of WISC-R scores will allow for direct comparisons between results obtained in this exploratory study and those obtained in many other studies of LD children. Moreover, the significance of discrepancies between any two WISC-R subtest scores or between the Verbal and Performances Scales is well established in the literature, thus falling easily into the pattern or discrepancy model to be used here.

In addition to the conventional WISC-R scoring procedures, we will obtain scores following Witkin, et. al (1974) that yield indices of the following three intellectual factors: Analytic Functioning; Verbal Comprehension; and Attention/Concentration. Four short instruments will be used to mark two of the factor scores. The Analytic Functioning score will be marked by results on the Hidden Patterns Test (CF-2) and the Children's Embedded-Figures Test (CEFT). A sample page of the Hidden Patterns Test is appended. However, it should be noted that the printed directions will be modified on the basis of pilot administrations.

The CEFT requires the subject to identify or find a single geometric figure in 14 complex drawings. An example of the item type is also appended. The Number Comparison Test (P-2) and Identical Pictures Test (P-3) will be used to mark the Attention/Concentration factor. Sample pages of these two tests are appended and, again, directions will be modified as necessary. Because of the robustness of the Verbal Comprehension factor and because many of the achievement measures are so infused with this factor, no compelling need was seen to provide additional markers of Verbal Comprehension.

The Bender-Gestalt is another widely used, well known instrument that needs no description here. It, too, will allow for comparisons between results obtained in the current study and the LD literature. It should be noted, however, that the Bender is suited more to the perceptual ability development of younger children than those in the current study, and the results may therefore be most useful diagnostically as a "low pass" screening device. A scoring method will be chosen to maximize variance in the age range from 12 to 15 under consideration. The Thurstone Flags and the Swinton-Wepman Test of Memory for Visual Orientation are intended as markers of the Perceptual Ability factor as assessed by the Bender-Gestalt Test. The directions as given in the sample pages will be modified as necessary.

Both the Woodcock Reading Mastery and Key Math Tests have been selected because they provide uniquely precise measurement in a short testing time, since each was developed using the Rasch model such that there is a common scale on which ability in a specific area and the difficulty of specific items can be represented. As in the WISC-R, all subjects begin with very simple items and continue until they respond incorrectly to a given number of consecutive items which have been scaled and ordered according to difficulty.

In view of the established association between hyperkinesis and impulsivity, we propose to assess impulsivity through the technique of error-scoring on three instruments: the Coding subtest from the WISC-R; the Number Comparison Test; and the Identical Pictures Test.

There are, of course, myriad other instruments that were considered and that might have been selected for this study. Those chosen for the assessment battery are integral components of the specific reference system established by Witkin, et al (1974), and are represented in a large portion of the clinical literature on LD.

Selected Instruments

Intellectual Functioning	Items	Time
WISC-R (Conventional scoring)		
Verbal Scale		
Information	30	
Similarities	17	
Arithmetic	18	
Vocabulary	32	
Comprehension	17	
Digit Span	14	
Verbal IQ		
Performance Scale		
Picture Completion	26	
Picture Arrangement	12	
Block Design	11	
Object Assembly	4	
Coding	45	
Mazes	9	
Performance IQ		
Full Scale IQ		45-60' est
WISC-R (Additional Scoring)		
Analytic Functioning		
Block Design	11	
Picture Completion	26	
Object Assembly	4	
Verbal Comprehension		
Vocabulary	32	
Information	30	
Comprehension	17	
Similarities	17	
Attention/Concentration		
Digit Span	14	
Arithmetic	18	
Coding	45	
Factor Markers*		
Hidden Patterns CF-2	400	3'
Children's Embedded Figures		
Test (CEFT)	14	10'
Number Comparison P-2	96	3'
Identical Pictures P-3	96	3'
Thurstone Flags	21	7'
Test of Memory for		
Visual Orientation	20	5'

	Items	Time
Perceptual Ability Bender-Gestalt		15'
Achievement		
Reading		
Woodcock Reading Mastery		
Letter Identification	45	
Word Identification	150	
Word Attack	50	
Word Comprehension	70	
Passage Comprehension	85	
Total Reading		20-30' est
Arithmetic		
Key Math Diagnostic Arithmetic		
Content:		
Numeration	24	
Fractions	11	
Geometry & Symbols	20	
Operations:		
Addition	15	
Subtraction	14	
Multiplication	11	
Division	10	
Mental Computation	10	
Numerical Reasoning	12	
Applications:		
Word Problems	14	
Missing Elements	7	
Money	15	
Measurement	27	
Time	19	
		30' est
Additional Measures		
Vision		
Hearing		
Impulsivity		

Total estimated time for entire battery: 141 - 166 minutes.

*The standard direction for the marker tests will be modified as necessary.

II. Theoretical Approach to the Assessment of Learning Disabilities

C. Diagnostic Decisions and Incidence Estimates

Diagnoses of LD in the adjudicated JD samples must be made immediately following individual assessment so that LD subjects may be assigned to the experimental conditions of the ACLD remedial effort which must start as soon as possible. Our original suggestion to derive LD definitions from aggregate data would require time both for data collection from sufficient numbers of youths and for data analyses. Because that time is unavailable, it is necessary to consider a priori models that describe LD in terms of levels of performance on the single variables selected, or in terms of relative levels -- discrepancies --, or in terms of more complicated patterns involving relative performance and/or performance levels on numerous selected variables. The selection of such an a priori model is neither easy nor rewarding for there are myriad proposed candidates ranging from simple ratios or differences between two variables to the detection of complex "within test" patterns of behavior apparently obscured from other than the numerous author-clinicians writing about them. The probability of finding a reasonably correct, supportable, or popular a priori definition is either terribly small or incalculable; but we must provide diagnoses that are made according to specified, replicable decision rules. Furthermore, these rules must be sufficiently uncomplicated so that some assurance may be maintained in their proper application under field conditions in the hands of trained, supervised staff. The rules must accommodate both records and individual assessment data.

In the following sections specific decision rules for diagnosis are described. They are based upon level of performance in some instances -- in record review for example, JD's with academic achievement commensurate with their ages are removed from further consideration as potentially learning disabled. In those instances where level is of importance, measurement errors specifically taken into account. A second type of decision relates to discrepant performance

on two or more variables. Discrepancy based decisions predominate in the treatment of assessment data and take into account both the statistical and the substantive significance (educational, psychological) of the magnitudes of differences. The statistical treatment is imperfect, however, for the intercorrelations among measures used are unknown. Finally, decisions using data from perceptual tasks are used in a confirmatory sense because adequate normative information on the measures selected is not available; and we are not able, therefore, to transform scores to a scale comparable to other measures. Specifically, the Bender-Gestalt is used in conjunction with ability and achievement levels or discrepancies to affirm or deny perceptual involvement in apparent difficulties.

Discussion and specifications in the following "Process" sections will provide decision rules in precise detail. A preview here might point out that a diagnosed LD delinquent will not be mentally retarded, nor severely emotionally disturbed, nor achieving at an age and experience appropriate level. His performance on assessment measures will show discrepancies at least as large as the difference between the means of age groups two years apart. Observation during the assessment will provide some assurance regarding the youth's vision, hearing, and freedom from obvious physical handicap as well as providing some data on potential behavioral correlates of LD and behavior which might assist in test interpretation. This seems to us to be a reasonably large information yield given our limits of testing time.

The estimation of LD incidence is not constrained by time as is diagnosis. For that reason it will be possible to estimate incidence according to analytic methods which require fairly large amounts of aggregate data and time for analyses and interpretation. The first incidence estimates will certainly be made according to the a priori diagnostic decision criteria. Those estimates

will only require counting the numbers of JD and non-JD boys diagnosed as LD and non-LD, and those counts may be started as data are received. Alternate discrepancy and level rules may also be applied as data are received providing tables of incidences according to various levels and discrepancies. Estimates from these counting procedures will become more precise as data are received and sample sizes grow.

When the total body of data have been received, we will be able to embark on more complex analyses. These analyses will essentially search for groups of subjects that are defined by similar performances reflected in records and assessment data. Performance may be viewed as a level on each variable and as the shape of a profile (relative levels) across variables. In addition, structural analyses of the data will allow us to examine convergence and divergence among variables, which will provide information as to validity and enhance interpretation.

III. Process

A. Sample Selection

In general, the sample will be described as follows:

1. Composed of 12 to 15 year old males;
2. Chosen as a purposive, heterogeneous group;
3. Chosen from a limited number of schools (usually six) in each city in the case of the public school sample and from the currently active court cases in the adjudicated sample;
4. Selected randomly from these target populations.

The procedures outlined herein will be adhered to as closely as possible, but it is recognized that the realities of the public schools and the court system may require modifications. These will be noted when they occur and estimates of their effect will be attempted.

At some sites the study will include all adjudicated delinquents either available or becoming available at the site during the period of time in which the diagnostic assessment can be conducted (approximately March 28 through September 30, 1977). Where this is the case, the correction staff will be asked for estimates of the number of boys who will pass through the system during the period (those becoming available). This number will be compared with the number immediately available for screening and diagnosis. The ratios derived from this comparison will be used to allocate the number of random selections for remediation and control between those initially available and those who will become available throughout the period. The correction staff will be asked to inform the diagnostic supervisor when at least sixteen records are available for further review and, if the review suggests possible LD, for diagnostic assessment. Where this is not the case, a random selection will be made along the following lines. The Creighton Institute will obtain a list of all the boys who are on probation and in institutions. Participants for the study will be selected by:

1. Numbering each individual on the list.
2. Choosing each participant according to a list of randomly ordered numbers. This list will be prepared in advance and will be based on estimates of the number of people in institutions and on probabtion.

After an individual is selected, his name, address, and school will be placed on a roster, organized by school or institution. This list will be provided by the Diagnostic Supervisor at each site.

The five hundred individuals at the public schools will be selected in a similar manner. Depending on the site, the Creighton Institute will either secure a list of all 12-15 year old boys in the selected schools or provide the selection process to the school staff for implementation. The names listed will be numbered sequentially, and an independently prepared sequential list of random numbers will be provided to the Creighton Institute staff, or in the case of Indianapolis to the school staff, who will indicate the selected sample members on the list of names. The random numbers list will be supplemented by a twenty percent surplus, so that additional names may be selected to replace those boys who are ineligible for this sample because of adjudicated delinquency or inappropriate age, or other reasons determined by the review process.

In order to avoid selecting replacements from the end of the list, thereby introducing whatever bias the sequence might contain, the replacement list of random numbers will be selected independently from the original random number sequence. Following the sample selection, the sample lists will be prepared in the Princeton Office and returned to the sites for records review. The initial check of the records will first determine if the selected boy is of proper age and without a delinquency record. Records review can continue while replacements are selected following the process described.

III: Process

B. Records Review

After sample selection, sets of actual records are to be used for training the records reviewers. The review process involves, first, the recording of relevant data on subsequently described forms and then following a systematic decision process to assign each record to an appropriate category. The branching of the review process at various decision points is illustrated by Figure I. Decision points are numbered on this figure ^{*} As mentioned previously, two prior decisions apply to the public school sample and one to the adjudicated delinquent sample. The decision common to both samples is age appropriateness. The records of boys born after March 1, 1965 and on or prior to March 1, 1961 will be eliminated from further review. For the public school sample, boys with records of adjudicated delinquency will be noted as such for later differentiation from other public school students. The list of adjudicated delinquents will have to be scanned for this purpose, as well as the records themselves. The diagnostic supervisor at each site will conduct the list comparison as the public schools sample is drawn. Also, designation of visual, hearing or speech problems in the records will be noted on the basic data form for possible consideration at a later date. The first decision rule requires consideration of a recorded clinical diagnosis of learning disability (LD). If such a judgment is in the record, the boy is assigned to the category for diagnostic assessment. If it is absent, the second decision rule concerns a diagnosis of mental retardation (MR). We have

*The numbers are not in strict ordered sequence because branching and recycling prevent such numerical representation.

selected the cut-off score of 75 on the most recent psychological examination for this determination, with the further provision that if a discrepancy within the psychological test profile of greater than 9 points exists, boys with composite scores of 68 or higher may be further considered. If the test used in the determination of mental retardation does not provide part scores, the record will be examined for achievement profiles which are unusually mixed or other scores such as the Bender-Gestalt which have been interpreted as suggesting perceptual and/or general, learning problems. When these are found, the record will be subjected to further review. Otherwise the record will be categorized as screened out of the study. The third decision rule applies to emotional disturbance (ED). If there is no record of ED, the record will receive further screening. If an ED diagnosis is present, it will be evaluated for severity. There is considerable uncertainty about the primacy of emotional disturbance in learning disabled students. This study will therefore include boys so diagnosed unless there is evidence to suggest the impossibility of securing valid information from the boy because of profound disturbance. For both JD and non-JD students, if the ED diagnostic report contained in the record characterized the boy as withdrawn, unable to relate to the examiner, generally untestable or presenting unusually bizarre or severe symptoms, including a record of hospitalization for these symptoms, the boy will be categorized as screened out of the study. If the behaviors, on the other hand, are more passive, such as shoplifting, taking small amounts of money from parents, lying or truancy, the record will be reviewed further. The diagnostic supervisor will make a clinical judgment on each case which might be ruled out because of ED.

For those records subject to further review the fourth decision rule applies to achievement scores. Where these are available, the level of achievement scores will be considered. Records of achievement scores which are at or above a point two standard errors of measurement below the mid-point score for children of similar school experience will be placed in the interview category. All others will be reviewed further. Decision rule five concerns profile discrepancies, both between ability and achievement scores and within achievement score profiles. While it is desirable to determine the significance of a profile difference through the use of a standard error of a difference formula, the variety of tests occurring in the records and the lack of certain necessary statistics for these tests render such formulae impractical. In particular, the intercorrelations between all possible pairs of ability and achievements tests are unavailable. The possible standard error bands must therefore rely on formulae which do not take into account intertest correlation, but require only the variances and reliabilities. The formula to be used is available in many standard texts. Its application requires conversion to a common scale, under the assumption of a normal distribution.

The particular version is adapted from Stanley's (1971) formula 21. The significance of differences will be established by this method, but the method does not determine the decision. Rather, the width of the band is set by what we call "diagnostic significance." In the case of the ability/achievement discrepancy, this value is determined by a score spread which represents test performance equivalent to two years difference. Two years is selected because the performance of urban populations, heavily represented among adjudicated delinquents, tends to be, in general, about one year below the norm on the average. This

difference can be reasonably attributed to environmental factors, and consequently must be allowed for in reviewing discrepancies. When the significance test is applied to these differences, using equivalent scores and reliabilities from, for example, the Stanford Achievement Test-Advanced Battery, we find that the differences are reasonably unlikely to be artifacts of the testing.

To repeat, decision rule five requires that if the achievement score differs by the equivalent of two years from the ability score on one or more tests, the record will be placed in the category for diagnostic assessment. A mixed achievement profile with two-year discrepancies will also result in classification for diagnostic assessment. A set of these standards error bands will be provided to the diagnostic assessors for such commonly used tests as the Stanford Achievement Series, the Sequential Tests of Educational Progress, the Wide Range Achievement Test, the School and College Ability Test, The California Test of Mental Ability and the Lorge-Thorndike Intelligence Tests. (The band width is kept conservative to reduce the probability of eliminating a significant number of LD cases from further diagnosis.) If, on the other hand, no such difference is discovered, the record will be reviewed for evidence of hyperactivity, unusually illegible handwriting, perceptive or motor performance tests which indicate malfunction and, if grades are available, for erratic grade profiles (decision rule 6). Also significant for this rule are abrupt changes in profile character. If any of these are present, the boy's record will be placed in the category for diagnostic assessment. Otherwise he will be placed in the category for interviewing.)

For those records which show an achievement score profile but no ability score, decision rule four (level of achievement) will apply. Records falling within the achievement limits will be considered for grade profile if grades are

available (decision rule 7). A profile which is above average will be categorized for interview. If the profile is average or below, the grade profile character will be considered (decision rule 8). A mixed profile is defined as one which contains grades in Reading, Language, Math, and Science which, for two separate years, show deviations of at least two letter grade intervals. For example, a letter grade profile CCBD is considered mixed, whereas CDCC is not. Other marking systems will be converted to a five interval scale, with the failing point being considered the top of the lowest interval, and used in an analogous manner. If the institution assigning the grades reports its own interval scale in a usable form, these intervals will be applied. When a mixed profile is present for two years, the boy will be assigned to the category for diagnostic assessment. For those records which do not show a mixed profile, decision rule six, exclusive of the grade considerations, will apply. In records for which grades are not available, rule six will apply in terms of the indicators other than grades.

In those cases where ability scores but not achievement scores are available, the availability of grades will be considered. If they are available, the categorizing decision will be made in terms of decision rules seven, eight, and six, as applicable in the rule-determined sequence. Where grades are not available, decision rule six will be used to assign the category. The same decision process applies when neither achievement nor ability scores are available. It should be noted that in no instance is a boy screened out of the diagnostic assessment category on the basis of a group ability measure alone. It should also be noted that decision rule six is applied as the final test when any other data suggesting learning disability are lacking. Should this decision rule produce a group of boys who are assigned to interviews which approaches the size

of the group being assessed, a sample of the rule six group will be assigned to the diagnostic assessment category, to ascertain if the application of this rule results in acceptable screening of non-LD boys.

The entire records review process will be under the direction of the diagnostic supervisor, a certified diagnostician. This person will pay particular attention to the decisions about emotional disturbance, personally reviewing clinically those cases where the basis of the recorded diagnosis is not obvious.

The review will result in three categories of decision; those boys who are screened from further consideration because of mental retardation or primary emotional disturbance, those boys who will be interviewed, and those who will be diagnostically assessed. The interview process is described next.

III. Process

C. Interviews

Interviews will be conducted following the records review process for students who were not previously screened out because of evidence of mental retardation or emotional disturbance, as well as for the students whose records indicate (1) high achievement scores, (2) consistent high grades, or (3) non-discrepant academic profiles with no other LD indicators. Students to be diagnostically assessed will be interviewed immediately following testing. Interviews will be recorded on special forms incorporating content provided by Creighton Institute. The general purpose of the interview is to examine whether students with learning problems get into more trouble than students without learning problems.

The first phase of the interviewing process will involve training the interviewers. The preliminary part of this training, which is also prerequisite to ensuring successful interview experiences, involves learning how to establish rapport with the students. The Diagnostic Supervisor will train interviewers in techniques of establishing rapport, which will include such topics as (1) general characteristics of the adolescent (social, emotional, physical), (2) potential psychological problems inherent in the adolescent/adult interaction, and (3) interviewer characteristics (e.g., voice intonation, language usage level, eye contact, authoritative attitude level). Part of the interviewer training will involve participation in hypothetical interview situations from the position of either the interviewer or the student, and responding verbally to how they would deal with a stated problem which might be encountered during an interview. In particular, this training will stress the importance of ensuring the student that confidentiality will be protected.

The next phase of the interview process will involve the actual collection of information. Interviewers will not have had previous access to their interviewee's records. Each interviewer will spend approximately 20 minutes with each student in the actual interview process. This 20-minute block of time for interviewing will be divided as follows using interview content provided by Creighton Institute:

	Time (Minutes)
Rapport building	5
Other designated interview schedule components	<u>15</u> 20

At the completion of the interview, the interviewer will reinforce the positive intent of the situation by thanking the student for his assistance, attention, and cooperation. Completed interview forms will be collected by the Diagnostic Supervisor and later forwarded to Creighton Institute.

III. Process

D. Diagnostic Assessment and Decision Process

The diagnostic assessment sessions will begin with introductions and rapport building activities similar to those utilized for the interviews as described in part B of this section. The tests to be administered will include the WISC-R, following standard procedures, followed by an achievement test in reading and in math, the Bender-Gestalt, and six short data collection devices which are selected to provide corroborative and analytical information in support of three major components of the assessment. An interview questionnaire, supplied by the Creighton Institute, will complete the data collection. The student will then return to his appropriate location, school or home.

When the student leaves, the diagnostic assessor will enter his or her observations of behavioral indicators on the records form. The behaviors of interest are shown in Figure II. They include four observations specific to the WISC-R. (The tests in the assessment package are discussed in detail in Part II). The diagnostic assessor will then score each of the test answer sheets and enter the results on the basic data form.

Finally, using the decision rules discussed in Section II, the Diagnostic Assessor will record a coded judgment of LD/not LD on the basic data form. These decision rules require the conversion of the scores of each test to a common scale. Under the assumption of a normal distribution, and given knowledge of the mean and standard deviation of each test, a direct conversion to a standard scale can be made. In the interest of convenience, the "T" scale, with a mean of 50 and a standard deviation of 10, has been selected. Conversion tables are provided for direct look up and entry on a profile form.

The first consideration in the LD/Not LD judgment will be a review of the profiles for discrepancies at least equivalent to the difference in group means of groups two years apart. These differences may occur within the score patterns of the WISC-R, including the Witkin factor scores, between the WISC scores and any or all of the achievement scores or between the achievement scores. When discrepancies of the indicated magnitude exist among all three sources of score data, the decision is clearly LD. When two sources show discrepancies, the same decision will apply if there is any supporting evidence from the Bender or the observations. When only one pair of scores show discrepancy, supportive evidence from the Bender and two or more pronounced characteristics from the behavioral observations will indicate LD. Cases which show no significant discrepancies, as defined, but demonstrate two years below level achievement and include observations of difficulty in following oral directions, motor difficulty, paper rotation, productive language problems, distractability, and at least one of the WISC observations will also be judged LD if the full scale WISC-R score is at least 75. Cases which do not meet any of these criteria will be judged non-LD. In order to maintain the greatest degree of independence in subsequent judgments of the protocol, each diagnostic assessor will be provided with a sealed envelope containing a positive and negative LD code number for entry on the form. During training careful emphasis will be placed upon the importance of attaining independent judgments. The code assignments will be retained in Princeton, and a periodic check of their consistent application will be conducted by persons not otherwise involved in the diagnostic assessment.

After the basic data form is completed it will be given to the Diagnostic Supervisor for secure storage until the first data review is conducted. This review will occur in general on every fifth day of assessment. Each diagnostic

assessor will be given a set of data forms for students assessed by others to review, apply the decision rules, and enter a judgment of LD/not LD.

It should be noted at this point that in some cases the decision rules will not provide an unambiguous conclusion. In these cases the diagnostic assessors will be instructed to resolve the situation with a clinical judgment based on the all relevant data which are recorded on the form.

When this final judgment is recorded, the basic data form will be sent to ETS Princeton for transcribing onto tape and for random selection into the remedial and control groups of those adjudicated LD students who are candidates for remediation. The records of the remediation candidates will then be reviewed by the remedial diagnosticians and copies transmitted to the ACLD remedial teams, accompanied by the remedial recommendations.

Quality control checks are spaced such that each diagnostic assessor will receive a check on the average of every eighth day. The check will be conducted by the diagnostic supervisor, who will spend the entire assessment session with the diagnostic assessor. To reduce the impact of two adults working with one student, the diagnostic supervisor will greet the student, escort him to the assessment room, and introduce the diagnostic assessor. The supervisor will tell the student that both adults will work with him during the session, and will occasionally contribute supportive comments. Sufficient time has been provided in the schedule for occasional group discussion of the assessment process.

The team leader in this process is the Diagnostic Supervisor, who is in each site a certified diagnostician. This person will be involved in each part of the assessment and will be thoroughly knowledgeable about the instrumentation package.

IV. Administrative Arrangements

A. Major Tasks and Staffing

Following sample selection, the implementation of this study requires completion of several main tasks. They are: review of school and court records of boys in the respective samples for evidence of possible LD; interviews to collect background and experience data; diagnostic assessments to provide the information to confirm or disconfirm the possible LD hypotheses indicated by the records review; review and decision based on these data; analysis of records and assessment data to provide remedial suggestions to the ACLD remediation team; and assessment of the remediation and control sample for post-treatment data. These tasks will be accomplished by teams of professionals under the direction of Diagnostic Supervisors.

The Diagnostic Supervisors at the Indianapolis and Phoenix sites are practicing certified psychologists, as is the supervisor of the Baltimore site who also serves the function of Associate Project Director. In addition to the required credentials and active engagement criteria, the supervisors also meet the qualification of being experienced in working with adjudicated delinquents.

The Diagnosticians will have equivalent qualifications to those of the Supervisors. In addition, experience in educating LD children is expected of this group. The reviewers, interviewers and Diagnostic Assessors will be people with degrees in psychology, education or similar fields and experience in working with educational records and with adolescents, (see page 29).

Diagnostic Staff

<u>Title^a</u>	<u>Responsibilities^b</u>	<u>Qualifications</u>
Diagnostic Supervisor ^b	Supervises, selects, trains site team Performs quality control Responsible for maintaining security of data at site Contact person for schools and institutions	Practicing certified psychologist Experience in working with adjudicated delinquents Experience in teaching or training of testers
Records Reviewer	Reviews school and court records Enters data in forms Applies decisions rules	Degree in psychology, education, or similar fields and experience in working with adolescents and with educational records
Interviewer	Administers the questionnaire	
Diagnostic Assessor	Administers the assessment package Provides reviews of basic data Administers the posttest	
Diagnostician	Reviews protocols for remedial recommendations to the ACLD	Practicing certified psychologist Experience in working with adjudicated delinquents and with learning disabled children

^aFor study purposes.

^bIt is understood that the Diagnostic Supervisor at the Baltimore site is also the Associate Project Director and has additional responsibilities outlined elsewhere in this document.

IV. Administrative Arrangements

B. Training

Training sessions are most significant as procedures for assuring uniform data collection. The records reviewers, interviews, Diagnostic Assessors, and Diagnosticians will be trained on-site by the site Diagnostic Supervisors (selected earlier by ETS) and by ETS staff.

Because we are assuming maximum utilization of pretest staff during the posttest period, most of the training will take place prior to pretesting; a brief training session will be held before posttesting commences.

Training will begin with a thorough review of materials and procedures. The records reviewers and interviews will be trained first, since their work must begin almost immediately. Dual record reviews and administration of the interview form to one another will be part of this procedure. Following this, the Diagnostic Assessors (DA) will be trained and a program of trial assessments among the DAs is planned. Each DA will have administered and been tested with the diagnostic assessment package. Finally, a period of testing by a pair of Diagnostic Assessors with selected cases will be conducted at the outset of the diagnostic period. (This will serve as an initial quality control check; quality control is further discussed below under IV. Administrative Arrangements -- C. Quality Control.) While this team assessment will be performed with "real" cases, it may be decided not to use the protocols prepared during the first in-training day of diagnostic assessment. The diagnostic supervisor will make this judgment, depending upon his or her observation of the skill with which the package is administered and upon evaluation of the diagnostic assessor's written

and verbal report. This caution is provided because the initial session may not produce valid data, due to initial inexperience on the part of the assessors. A final crucial element in the training, interspersed throughout its course, is made up of suggestions, anecdotes, and procedures which are useful in working with adolescents. These will be provided by the experience of the diagnostic supervisors and our consultants. Bulletins containing these materials will be part of the training package.

IV. Administrative Arrangements

C. Quality Control

Firstly, 5 to 6% (spaced across the entire period of assessment) of all diagnoses will be quality controlled by the Diagnostic Supervisor; this will be accomplished by the actual presence of the supervisor during the required number of diagnostic assessment.

Secondly, a one half hour protocol check of each diagnostic assessment will be made in a cooperative effort between the Diagnostic Supervisor and the Diagnostic Assessors. (The assessors will not check cases which they themselves originally assessed.)

This protocol check consists of a review of the entire data form, including school or court data transcribed thereon, assessment data, the application of the decision rules, the assessor's comments and the recorded observations made by the diagnostic assessor who collected the data. This review will lead to an independent judgment by the reviewer of LD or not LD. The first review will be "blind" because the judgment of the data collector will be entered in code.

Thirdly, a second protocol check of 100 LD/JD diagnosed cases at each site will be made by the Diagnosticians. This check will be part of the review process which will produce remediation recommendations.

Finally, periodic site visits by a two/three person monitoring team (members of the advisory committee) will be conducted during the diagnostic testing period for purposes of reducing variation in diagnostic points of view. The monitoring team will observe actual assessments taking place at each site.

The team members are J. Richard Harsh, a clinical psychologist who has both worked in California's Juvenile Halls and conducted extensive research with

another team member, Professor Nadine Lambert, of UCLA Berkely. They have been or are at present actively involved in training programs for school psychologists. There will be cross-checks of samples of deidentified protocols across sites, followed by an analysis of these cases to achieve greater commonality and to check for diagnostic drift. This entire process can be classified as an additional quality control check. It has been suggested that external evaluators conduct this final review. However, its prime purpose is to facilitate cross-site uniformity by providing common sets of data for discussion. The direct resolution of differences of opinion among the diagnostic supervisors is a part of this process.

IV. Administrative Arrangements

D. Forms

1. Basic data form

All data gathered throughout the record screening and diagnostic assessment processes will be recorded in an individual foldout form, which, with the attendant answer sheet(s), will provide a complete diagnostic package. (There will be a separate form to be used by the interviewer which will later be merged with the records data.)

Part I of the form will be used to enter information found in the subject's school and/or court records. This information will provide tools for decision making in response to screening criteria as they are outlined in the decision tree (see III. Process -- B. Records Review). These criteria include prior diagnoses of physical handicap, emotional disturbance, mental retardation, or LD, as well as ability and achievement data, profile character, and comments regarding LD symptoms. Students for whom these data indicate no LD will be individually interviewed as the final procedure after screening from further diagnosis (see III. Process -- C. Interviews). All cases for whom the records review provides positive indication(s) of LD will be included in the sample for intensive diagnostic assessment. Also included in Part I are spaces for recording vision and hearing problems.

Part II will be used to record the student's performance on the testing instruments being applied. The test instruments will be hand scored by the DA to produce this record. The DA will enter a coded judgment of his/her opinion as to whether the boy has a learning disability.

Part III of the form will be used by the Diagnostic Assessor for written observations of each student's behavior throughout the assessment. Provisions will be made for comments by the Diagnostic Supervisor.

Part IV of the document will contain the overall judgment of either a second Diagnostic Assessor or the Diagnostic Supervisor. This summary will be based upon a half hour protocol check and will result in either a "non-LD" or "LD" decision.

2. Profile and Summary Sheets

a. To facilitate comparison of information from several sources, significant data will be entered in a profile sheet. The major elements in this profile will be the five scores from the WISC-R (Verbal, Performance, Analytic Functioning, Verbal Comprehension and Attention/Concentration) and the achievement scores in reading and mathematics.

b. A summary sheet will be used by a Diagnostician for all cases assessed as "LD/JD". (Note the exclusion of "LD/PS" in this final diagnostic process, since no PS cases will be in the remediation sample.) A recommendation procedure for "LD/PS" is discussed elsewhere in this document (see V. Reporting -- B. Parents). This summary sheet will provide handwritten data recorded during a second protocol check (one hour) made for each boy who is randomly selected for the remediation sample. Its major purpose is to provide recommendations for remedial purposes for the boy, and it will be included in his diagnostic package as part of the basic data form.

IV. Administrative Arrangements

E. Reporting to Parents, Schools and Courts

As requests for information are received, they will be reviewed by the Associate Project Director, firstly, for appropriateness of request, and then for the determination of the kind of response.

1. Parents

Informed consent forms signed by the parents or guardians of students in the sample contain an agreement that certain educationally significant review and assessment information will be available and provided to parents or guardians. Responses to parental inquiry will be made within a given time frame and will be prepared at ETS by the Associate Project Director (a certified diagnostician). Responses will include statements for those cases which show no evidence of LD and which will not be intensively diagnosed. All reports will be forwarded to the ACLD staff, who will provide them to the parents or guardians who make the requests and who will meet with those parents who request further information. (See V. Dissemination of Information - B. Parents.)

2. Schools and Courts

Reporting to schools and courts will be made by ETS for sample subjects upon request. These reports will be prepared by the Associate Project Director; they will include a narrative section as well as certain scores which have LD significance. These reports will be limited to assessment information only. (See V Dissemination of Information - C. Schools and Courts.)

V. Dissemination of Information

A. ACLD

The ACLD team will receive from ETS a complete folder for each youth who has been randomly selected for the remediation sample. This folder will include the results of the records review, the scores produced by the diagnostic package, the judgments provided by the first and second reviews, and the remediation recommendations from the Diagnostician who provides the second protocol check for the students in the remedial sample. These latter recommendations will be based upon a review made by the Diagnostician of special sub-test scores as well as of all data to determine which areas need remediation.

B. Parents

ETS will provide the ACLD with narrative reports for all parents or guardians who have requested information from ETS (see II. Administrative Arrangements - Reporting to Parents). It should be noted specifically that no scores will be provided nor will any labelling diagnoses be reported. If the performance of the students on the diagnostic exercise suggests a learning problem the sentence report will include a recommendation for further diagnoses. Although the form for these reports will have been previously prepared and somewhat standardized, it is anticipated that an approximate fifteen day turnaround period will be required to allow for individual review by the Associate Project Director.

C. Schools and Courts

Parent consent forms contain agreements that certain test results will be disclosed to schools and probation or correction systems, as previously stated in II. Administrative Arrangements - Reporting to Parents, Schools and Courts. The transfer of such information will be made by ETS and will be for the purpose of identifying a learning problem for possible remediation. Only educationally

relevant assessment information will be reported; no information identifying hidden delinquency behavior or other non-educational type of information on LD will be transferred. Furthermore, formal written agreements will be made with each transfer of information. These agreements will specify confidentiality requirements, including the set of purposes for which the information can be utilized, i.e., for purposes of remediation of learning disabilities.

D. Creighton Institute

ETS will provide Creighton Institute with taped data by means of a keypunch process. ETS will also provide Creighton with frequency distributions for each of the three populations (Public School, Probationary JD's, and Institutionalized JD's) as a preliminary descriptive analysis. Complying with the requirements of security and privacy, all identifiable records will be shipped to Creighton for disposition after the study has been completed. ETS will retain a duplicate of the deidentified taped data for subsequent analysis.

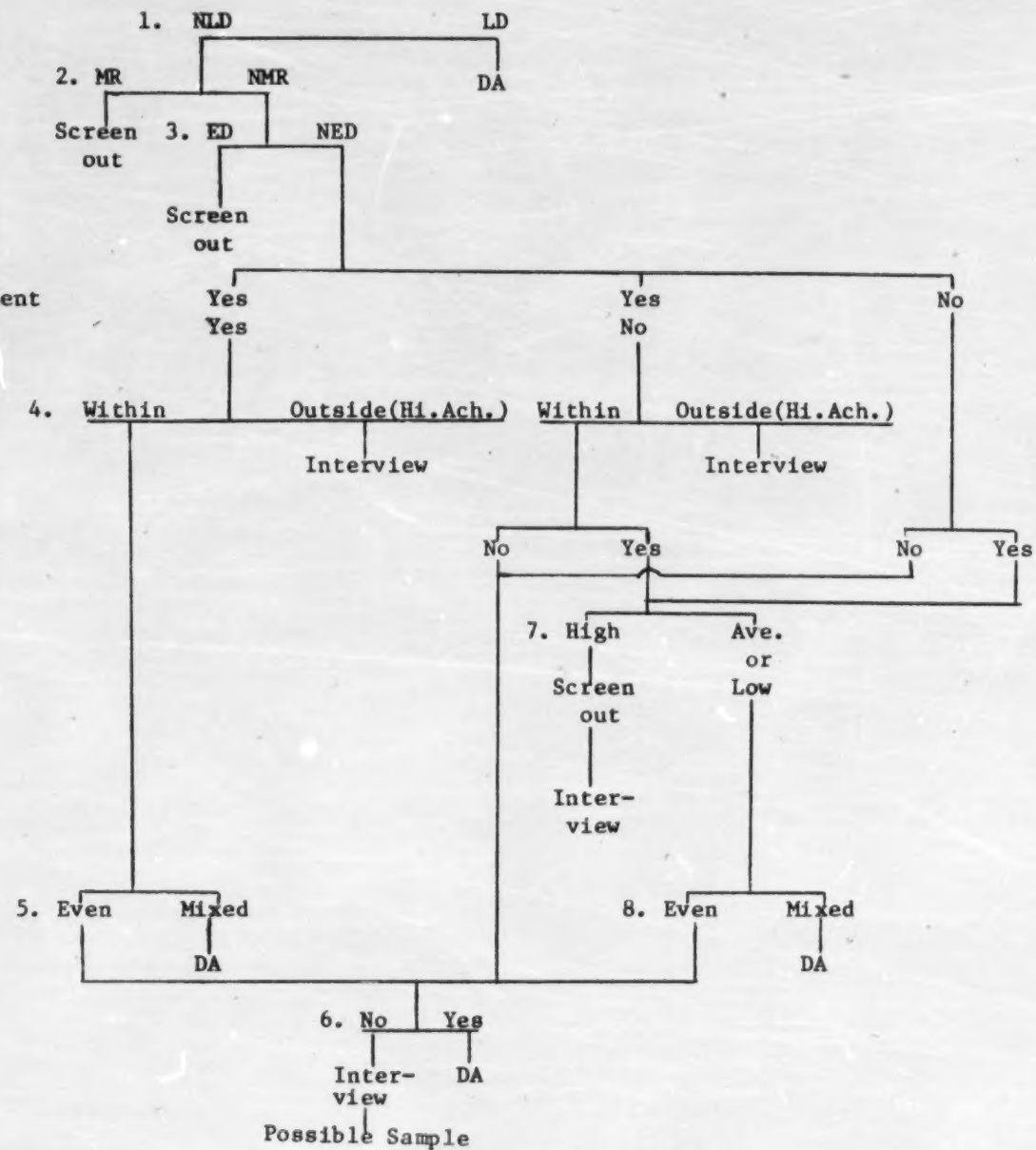
Recorded
DiagnosisScore
AvailabilityScore
Level
LimitsGrade
AvailabilityProfile
CharacterOther LD
IndicatorsAchievement
Ability

Figure II

	Pronounced Characteristic	Occasionally Observed Characteristic	Not Observed
Difficulty following oral directions	—	—	—
Low Frustration -- Early onset of fidgeting, inattentiveness	—	—	—
Guarded response style (may be withdrawal, hostile response, evasive response)	—	—	—
Repeated verbalization of inability to learn	—	—	—
Gross motor difficulty -- unusual awkwardness	—	—	—
Fine motor difficulty -- difficulty with handling pencil or similar tasks	—	—	—
Manifestation of vision problems e.g., squinting, holding books very close, rotation of paper	—	—	—
Manifestation of hearing problems e.g., favoring one ear, focusing on speakers lips	—	—	—
Continuous rocking, tapping, drumming	—	—	—
Difficulty in Oral Expression disjunctive sentences, inconsistent grammatical errors, long latency for common words	—	—	—
Distractability	—	—	—
Additional Comments			
WISC Observations			
Block designs - perseverating in patterns	—	—	—
Inability to perform on sequence test	—	—	—
Inability to complete any math problem	—	—	—
Inability to complete puzzles	—	—	—

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Appendix

Name _____

HIDDEN PATTERNS TEST -- CF-2 (Rev.)

How quickly can you recognize a figure that is hidden among other lines? This test contains many rows of patterns. In each pattern you are to look for the model shown below:

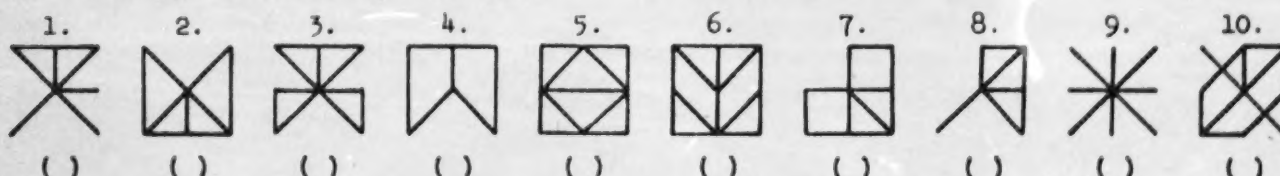


The model must always be in this position, not on its side or upside down.

In the next row, when the model appears, it is shown by heavy lines:



Your task will be to place an X in the space below each pattern in which the model appears and an O below the pattern where the model does not appear. Now, try this row:



You should have marked an X below patterns 1, 3, 4, 8, and 10, because they contain the model. You should have marked an O below patterns 2, 5, 6, 7, and 9 because they do not contain the model.

Your score on this test will be the number marked correctly minus the number marked incorrectly. Work as quickly as you can without sacrificing accuracy.

You will have 3 minutes for each of the two parts of this test. Each part has two pages. When you have finished Part 1, STOP. Please do not go on to Part 2 until you are asked to do so.

DO NOT TURN THIS PAGE UNTIL ASKED TO DO SO

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Name _____

NUMBER COMPARISON TEST — P-2

This is a test to find out how quickly you can compare two numbers and decide whether or not they are the same. If the numbers are the same, go on to the next pair, making no mark on the page. If the numbers are not the same, put an X on the line between them. Several examples are given below with the first few marked correctly. Practice for speed on the others.

659 _____ 659	7343801 _____ 7343801
73845 <u>X</u> 73855	18824 _____ 18824
1624 _____ 1624	705216831 _____ 795216831
438 <u>X</u> 436	971 _____ 971
4821459 _____ 4814259	446014721 _____ 446014721
658331 _____ 656331	5173869 _____ 5172869
11653 _____ 11652	6430017 _____ 6430017
617439428 _____ 617439428	518198045 _____ 518168045
1860439 _____ 1860439	55179 _____ 55097
90776105 _____ 90716105	63216067 _____ 63216057

Your score will be the number marked correctly minus the number marked incorrectly. Therefore, it will not be to your advantage to guess unless you have some idea whether or not the numbers are the same.

You will have 1 1/2 minutes for each of the two parts of this test. Each part has one page. When you have finished Part 1, STOP. Please do not go on to Part 2 until you are asked to do so.

DO NOT TURN THIS PAGE UNTIL ASKED TO DO SO.

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Name _____

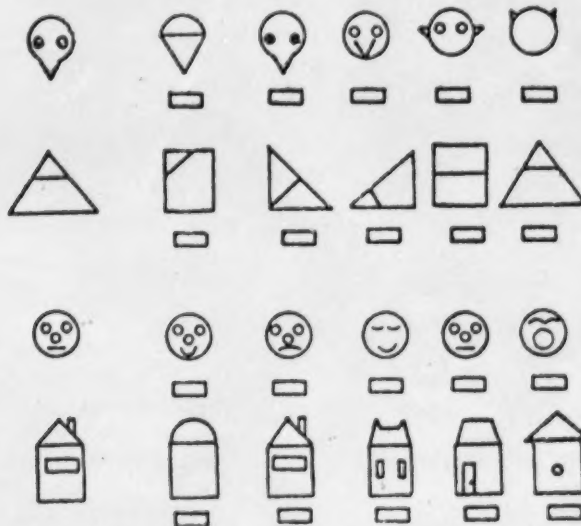
IDENTICAL PICTURES TEST -- P-3

How fast can you match a given object? This is a test of your ability to pick the correct object quickly. At the left of each row is an object. To the right are five test objects, one of which matches the object at the left. Look at the example below:



The third test object has been marked by blackening the space below it, because it is the same as the object at the left.

Now practice on the problems below. Mark them as fast as you can:



Your score on this test will be the number of objects marked correctly minus a fraction of the number marked incorrectly. Work as quickly as you can without sacrificing accuracy.

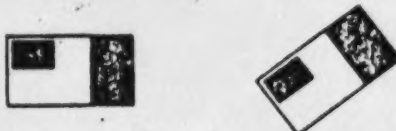
You will have 1 1/2 minutes for each of the two parts of this test. Each part has two pages. Be sure to do both pages if you have time. When you have finished Part 1, STOP. Please do not go on to Part 2 until you are asked to do so.

DO NOT TURN THIS PAGE UNTIL ASKED TO DO SO.

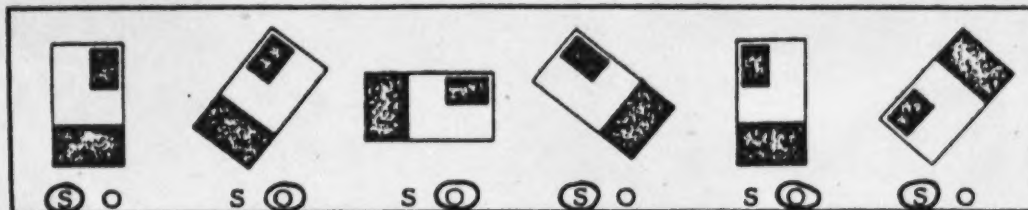
The two sides of the large flag previously shown appear below. Notice that you can not slide one around on the page to look exactly like the other one. Each picture is the opposite side of the other. One must be picked up and turned over in order to make it look exactly like the other one. This was demonstrated with the large flag.



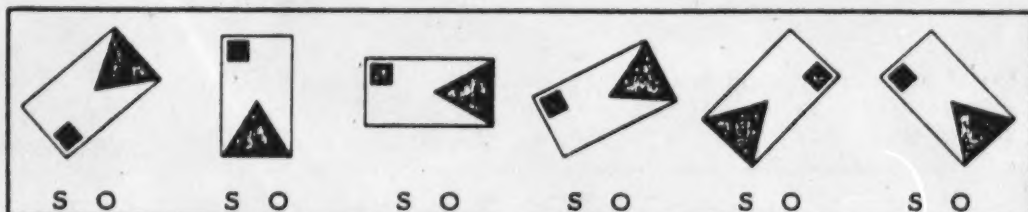
The next two pictures are of the same side of the flag. You can slide one of the pictures around on the page so that it looks exactly like the other one.



Below are more flags. For each of the six flags in the right-hand box, circle the letter S if the flag shows the same side as the single flag in the box at the left; circle the letter O if the flag shows the opposite side of the single flag at the left. This row has been marked.



Here are two more rows of flags for practice. Mark all flags. REMEMBER: Circle the letter S if the flag shows the same side as the single flag in the box at the left; circle the letter O if the flag shows the opposite side of the single flag at the left. GO RIGHT AHEAD.



The answers for the first row from left to right are S S O O O S. The answers for the second row from left to right are O O S S S S.

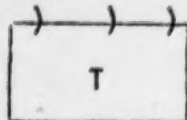
WHEN YOU GET THE SIGNAL TO BEGIN, turn the page and mark more problems of the same kind. Work as fast and as accurately as you can, but do not guess. Wrong answers will count against you. You are not expected to finish in the time allowed. You will have exactly five minutes to do as much as you can.

STOP HERE. WAIT FOR FURTHER INSTRUCTIONS.

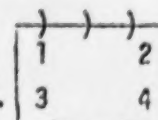
INSTRUCTIONS: Visual Orientation Memory Test (Primary)

This test consists of 2 sample items and 20 test items. Sample items are not included in the score. Each of the items consist of two pages:

The first shows the "target" figure, centered on the page.



The second has 4 answer choices, arranged as illustrated.



One of the answer choices is identical to the target figure. The other three are all mirror-images of the target--left to right, upside-down, and left-right and upside-down. The child's task is to identify the answer exactly the same as the target he saw on the previous page. The position of the child's responses (numbered as shown) is checked on a separate score sheet. Each child is tested individually.

Administration

1. Sample items.
Tell the child:

I WILL SHOW YOU A PAGE WITH A PICTURE. LOOK AT IT CAREFULLY
SO YOU WILL REMEMBER IT. LET'S TRY ONE.

Open book to S1 target page.

LOOK AT THIS PICTURE.

Allow the child to look for 5 seconds. Turn to S1 answer page.

CAN YOU POINT TO THE PICTURE THAT IS ON THE PAGE JUST LIKE
THE ONE YOU SAW BY ITSELF?

If correct, (3):

GOOD, THEY WERE ALL THE SAME SHAPE, BUT THAT ONE WAS ON THE PAGE THE
SAME WAY AS THE ONE YOU REMEMBERED.

Turn back to the target page of S1 so that the child can check to see that his
answer was correct.

Say:
LET'S TRY ANOTHER ONE. LOOK AT THIS PICTURE.

Turn to S2 target page. Allow child to look for 5 seconds. Turn to S2 answer page.

POINT TO THE PICTURE JUST LIKE THE ONE YOU JUST SAW.

If correct, (1):

GOOD, THAT ONE WAS JUST LIKE THE ONE YOU REMEMBERED.

Turn back to the target page so that the child can check to see that his answer was
correct.

Children's Embedded Figures Test (CEFT)

Materials:

- 1) Simple Form: Cut out model of one form (HOUSE) which is embedded in a series of complex figures.
- 2) Discrimination Series (D5-8): A set of 4 drawings, each of which shows the simple form (HOUSE) and three similar, but obviously incorrect forms.
- 3) Practice Item (P3): One complex figure which is designed to illustrate the procedure.
- 4) Test Series: A series of complex figures, 14 of which (H1-H14) have the simple HOUSE figure embedded in them. (All figures are numbered and should be presented with the identifying number in the upper right hand corner of the card from the student's view.)
- 5) Stopwatch

General Description:

This modified version of the CEFT requires the student to locate a simple form (HOUSE) which is embedded within a larger, complex picture. The task is separated into two parts: the training procedure which is used to ensure that the student knows what is required of him and the testing itself consisting of 14 items.

Training:

- 1) Training on the discrimination figures (D5-8): Take the simple cut-out form of the HOUSE, show it to the student and say:

THIS LOOKS SOMETHING LIKE A HOUSE, DOESN'T IT? THE LONGEST SIDE IS WHERE THE HOUSE RESTS ON THE GROUND. SEE IF YOU CAN FIND ANOTHER HOUSE THAT LOOKS EXACTLY LIKE THAT ONE ON THIS PAGE. Present card D5 and say: POINT TO THE ONE LIKE YOURS. After he points, say: NOW MOVE YOUR FINGER AROUND THE SIDES OF IT AS THOUGH YOU ARE OUTLINING OR TRACING IT (You may demonstrate how to outline).

Once the student has made a choice, place the cut-out HOUSE form over his choice and compare the two. If the student has made a correct choice, say:

VERY GOOD. YOU FOUND THE ONE EXACTLY LIKE YOURS. If the student's choice was incorrect, say (depending on his choice): NO, YOU SEE THE ONE YOU CHOSE (point to child's choice) IS BIGGER (SMALLER) THAN YOUR OTHER ONE, or say IT IS UPSIDE-DOWN. [Record the child's response(s) on the answer sheet next to item D5.]

References

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